

SEQUENCE LISTING

<110> Ono, Toshio
Nakayama, Ichiro

<120> CANCER ASSOCIATED ANTIGENS AND USES
THEREFOR

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<140> US 09/559,013

<141> 2000-04-26

<150> US 60/168,353

<151> 1999-12-01

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<212> DNA

<213> Mus musculus

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Lys	Ala	Arg	Tyr	Thr	Val	Arg	Ser	Phe	Gly	Ile	Arg	Arg	Asn	Glu	Lys	
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SEP 26 2001
TECH CENTER 1600/2900

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35 40 45
45 Ser Thr His Gly Lys Phe Asn Gly Thr Val Lys Ala Glu Asn Gly Lys
50 55 60
Leu Val Ile Asn Gly Lys Pro Ile Thr Ile Phe Gln Glu Arg Asp Pro
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Thr Asn Ile Lys Trp Gly Glu Ala Gly Ala Glu Tyr Val Val Glu Ser
85 90 95
50 Thr Gly Val Phe Thr Thr Met Glu Lys Ala Gly Ala His Leu Lys Gly
100 105 110
Gly Ala Lys Arg Val Ile Ile Ser Ala Pro Ser Ala Asp Ala Pro Met
115 120 125
Phe Val Met Gly Val Asn His Glu Lys Tyr Asp Asn Ser Leu Lys Ile
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Val Ser Asn Ala Ser Cys Thr Thr Asn Cys Leu Ala Pro Leu Ala Lys
145 150 155 160
Val Ile His Asp Asn Phe Gly Ile Val Glu Gly Leu Met Thr Thr Val
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Leu Trp Arg Asp Gly Arg Gly Ala Ala Gln Asn Ile Ile Pro Ala Ser

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atttttgatg ctgccaaagc acctattcag tgggaggagc gcaatgtcac agcaattcaa 240
 ggaccaggag gaaagtggat gatccctcca gaagccaagg agtccatgga taagaacaag 300
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 35 40 45
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 Ala Lys Ala Pro Ile Gln Trp Glu Glu Arg Asn Val Thr Ala Ile Gln
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 Gly Pro Gly Gly Lys Trp Met Ile Pro Pro Glu Ala Lys Glu Ser Met
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 Asp Lys Asn Lys Met Gly Leu Lys Gly Pro Leu Lys Thr Pro Ile Ala
 100 105 110
 Ala Gly His Pro Ser Met Asn Leu Leu Leu Arg Lys Thr Phe Asp Leu
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 Tyr Thr Asp Val Asn Ile Val Thr Ile Arg Glu Asn Thr Glu Gly Glu
 145 150 155 160
 Tyr Ser Gly Ile Glu His Val Ile Val Asp Gly Val Val Gln Ser Ile

165 170 175
 Lys Leu Ile Thr Glu Glu Ala Ser Lys Arg Ile Ala Glu Phe Ala Ser
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 Ser Thr Leu Gly Thr Thr Thr Gly Thr Thr Ser Xaa Leu Cys Thr Lys
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 Phe Phe Gln Ala Gly Glu Gly Arg Asp Glu Gln Gly Ala Gln Gly Gln
 35 40 45
 45 Pro Gly Val Gly Ala Val Gly Thr Glu Gly Glu Gly Glu Glu Leu Asn
 50 55 60
 Gly Gly Lys Gly His Phe Gly Pro Gly Ala Pro Gly Pro Met Gly Asp
 65 70 75 80
 Gly Asp Lys Asp Ser Gly Thr Arg Ala Gly Gly Val Glu Gln Glu Gln
 85 90 95
 50 Asn Glu Pro Val Ala Glu Gly Thr Glu Ser Gln Glu Asn Gly Asn Pro
 100 105 110
 Gly Gly Arg Gln Met Pro Leu Gln Gly Ser Arg Phe Ala Gln His Arg
 115 120 125
 55 Leu Arg Glu Leu Glu Ser Ile Leu Gln Arg Thr Asn Ser Phe Asp Val
 130 135 140
 Pro Arg Glu Asp Leu Asp Arg Leu Met Asp Ala Cys Val Ser Arg Val
 145 150 155 160
 Gln Asn Trp Phe Lys Ile Arg Arg Ala Ala Arg Arg Asp Arg Arg
 165 170 175
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Arg Phe
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15 <213> Mus musculus

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	gggattcttc	ccaggttcca	ggaagcgatc	tggccagaac	ttgctgggca	gttcccaaac	300
	catctcatcc	agggttgccg	cttgatgtt	ggggatgatg	accatatact	tagggatgtc	360
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<400> 12

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 Leu Ala Pro Gly Phe Leu His Phe Leu Gln Pro Asn Leu Pro Ile Tyr
 35 40 45
 Leu Leu Gly Leu Thr Gln Lys Leu Gly Pro Ile Tyr Arg Ile Arg Leu
 50 55 60
 25 Gly Met Gln Asp Val Val Leu Asn Ser Asn Arg Thr Ile Glu Glu
 65 70 75 80
 Ala Leu Ile Gln Lys Trp Val Asp Phe Ala Gly Arg Pro His Met Leu
 85 90 95
 C1 30 Asn Gly Lys Met Asp Leu Asp Leu Ser Leu Gly Asp Tyr Ser Leu Met
 100 105 110
 Trp Lys Ala His Lys Lys Leu Ser Arg Ser Ala Leu Met Leu Gly Met
 115 120 125
 Arg Asp Ser Met Glu Pro Leu Ile Glu Gln Leu Thr Gln Glu Phe Cys
 130 135 140
 35 Glu Arg Met Arg Ala Gln Ala Gly Thr Pro Val Ala Ile His Lys Glu
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 Phe Ser Phe Leu Thr Cys Ser Ile Ile Ser Cys Leu Thr Phe Gly Asp
 165 170 175
 40 Lys Asp Ser Thr Leu Val Gln Thr Leu His Asp Cys Val Gln Asp Leu
 180 185 190
 Leu Gln Ala Trp Asn His Trp Ser Ile Gln Ile Leu Thr Ile Ile Pro
 195 200 205
 Leu Leu Arg Phe Leu Pro Asn Pro Gly Leu Gln Lys Leu Lys Gln Ile
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 45 Gln Glu Ser Arg Asp His Ile Val Lys Gln Gln Leu Lys Arg His Lys
 225 230 235 240
 Asp Ser Leu Val Ala Gly Gln Trp Lys Asp Met Ile Asp Tyr Met Leu
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 50 Gln Gly Val Glu Lys Gln Arg Asp Gly Lys Asp Glu Glu Arg Leu His
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 Gly Pro Gly Ser Gln Leu Leu Tyr Arg Asn Arg Met Gln Leu Pro Leu
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 60 Leu Met Ala Thr Ile Ala Glu Val Leu Arg Leu Arg Pro Val Val Pro
 340 345 350
 Leu Ala Leu Pro His Arg Ala Thr Arg Ala Ser Ser Ile Ser Gly Tyr
 355 360 365

Asp Ile Pro Lys Asp Met Val Ile Ile Pro Asn Ile Gln Gly Ala Asn
 370 375 380
 Leu Asp Glu Met Val Trp Glu Leu Pro Ser Lys Phe Trp Pro Asp Arg
 385 390 395 400
 5 Phe Leu Glu Pro Gly Lys Asn Pro Arg Thr Pro Ser Phe Gly Cys Gly
 405 410 415
 Ala Arg Val Cys Leu Gly Glu Pro Leu Ala Arg Leu Glu Leu Phe Val
 420 425 430
 Val Leu Ala Arg Leu Leu Gln Ala Phe Thr Leu Leu Pro Pro Asp
 435 440 445
 10 Gly Thr Leu Pro Ser Leu Gln Pro Gln Pro Tyr Ala Gly Ile Asn Leu
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 aacgatcaaa gatttgattt ctttcagccc tggcacccag tacaacgcct actacgagtt 540
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 45 <213> Mus musculus

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 35 40 45
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 50 55 60
 55 Ile Lys Ala Met Lys Glu Gly Arg Tyr Thr Val Leu Ala Glu Ser Lys
 65 70 75 80
 Asn Glu Glu Lys Lys Ser Gly Pro Thr Ser Asp Asn Glu Glu Glu
 85 90 95
 60 Asp Asp Glu Glu Asp Gly Ser Tyr Leu His Pro Ser Leu Phe Ala Ser
 100 105 110
 Lys Lys Ser Ser Arg Leu Glu Glu Leu Met Lys Pro Leu Lys Val Val

115 120 125
Asp Pro Asp His Pro Leu Ala Leu Cys Pro Glu Ser Thr Lys Leu
130 135 140
5 Thr Ala His Ser Gln Pro His Pro Asn Leu Gln Glu Trp Gly Pro Arg
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Thr Ile Lys Asp Leu Ile Ser Phe Ser Pro Gly Thr Gln Tyr Asn Ala
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Tyr Tyr Glu Phe
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20 25 30
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35 40 45
Ile Met Ala Met Glu Asp Glu Phe Gly Phe Glu Ile Pro Asp Ile Asp
50 55 60
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 aaaaaaacca tctttaatag gaataagggt tataattgct tgttgtacag aaatgggtga 900
 ctaaagagag agaaacaaag cgtgggaaat ttaaaaaaaaa aaccacacaga gaaacaatgg 960
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 <213> Mus musculus

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 35 40 45
 Val Glu Ser Pro Pro Ala Ala Arg Cys Ser Ala Arg Arg Ala Glu Leu
 50 55 60
 30 Ser Lys Gln Asn Gly Ser Ser Ala Ser Gln Ile Ser Ser Ala Glu Gly
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 <213> Mus musculus

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		50				55					60						
5	His	Arg	Lys	Glu	Gly	Asp	Ser	Glu	Phe	Met	Asn	Ile	Ile	Ala	Asn	Glu	
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				100					105					110			
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	Lys	Gly	Arg	Phe	Gln	Gly	Lys	Ala	Thr	Lys	Met	Ser	Arg	Arg	Ala	Glu	
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	5 10 15																
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	Leu Ala Pro Ala Ala Ala Gln Asp Ser Thr Gln Ala Pro Thr Pro Gly																
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	Ser Pro Leu Ser Pro Thr Glu Tyr Glu Arg Phe Phe Ala Leu Leu Thr																
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	Pro Thr Trp Lys Ala Glu Thr Thr Cys Arg Leu Arg Ala Thr His Gly																

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	Cys	Arg	Asn	Pro	Thr	Leu	Val	Gln	Leu	Asp	Gln	Tyr	Glu	Asn	His	Gly					
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		85					90					95									
15	ttt	gag	tct	ttc	tgc	cag	ttc	act	cac	tac	cgt	tgc	tcc	aac	cac	gtc	393				
	Phe	Glu	Ser	Phe	Cys	Gln	Phe	Thr	His	Tyr	Arg	Cys	Ser	Asn	His	Val					
	100					105					110					115					
20	tac	tat	gcc	aag	aga	gtc	ctg	tgt	tcc	cag	cca	gtc	tct	att	ctc	tca	441				
	Tyr	Tyr	Ala	Lys	Arg	Val	Leu	Cys	Ser	Gln	Pro	Val	Ser	Ile	Leu	Ser					
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	Thr	Phe	Gln	Pro	Trp	Pro	Glu	Arg	Leu	Ser	Asn	Asn	Val	Glu	Glu	Leu					
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45	aag	cag	gag	caa	gga	gtg	gag	cac	agg	cag	gag	ccg	aca	caa	gaa	cac	681				
	Lys	Gln	Glu	Gln	Gly	Val	Glu	His	Arg	Gln	Glu	Pro	Thr	Gln	Glu	His					
					200				205						210						
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	Lys	Gln	Glu	Glu	Gly	Gln	Lys	Gln	Glu	Glu	Gln	Glu	Glu	Glu	Gln	Glu					
				215				220						225							
55	gag	gag	gga	aag	cag	gaa	gaa	gga	cag	ggg	act	aag	gag	gga	cgg	gag	777				
	Glu	Glu	Gly	Lys	Gln	Glu	Glu	Gly	Gln	Gly	Thr	Lys	Glu	Gly	Arg	Glu					
			230					235					240								
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	Ala	Val	Ser	Gln	Leu	Gln	Thr	Asp	Ser	Glu	Pro	Lys	Phe	His	Ser	Glu					
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	Ser	Leu	Ser	Ser	Asn	Pro	Ser	Ser	Phe	Ala	Pro	Arg	Val	Arg	Glu	Val					
		260				265					270					275					
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	Glu	Ser	Thr	Pro	Met	Ile	Met	Glu	Asn	Ile	Gln	Glu	Leu	Ile	Arg	Ser					
					280					285					290						
75	gcc	cag	gaa	ata	gat	gaa	atg	aat	gaa	ata	tat	gat	gag	aac	tcc	tac	969				
	Ala	Gln	Glu	Ile	Asp	Glu	Met	Asn	Glu	Ile	Tyr	Asp	Glu	Asn	Ser	Tyr					
				295					300					305							

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	325 330 335	
10	acc ccc aca gcc aag gcc tgg aag tac atg gag gag gag atc ctt ggt	1113
	Thr Pro Thr Ala Lys Ala Trp Lys Tyr Met Glu Glu Glu Ile Leu Gly	
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	gag gcc agc ctg cag cgg caa caa tgc gac acc tcc cac aag act ccc	1257
	Glu Ala Ser Leu Gln Arg Gln Gln Cys Asp Thr Ser His Lys Thr Pro	
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	Phe Val Ser Pro Leu Leu Ala Ser Gln Ser Leu Ser Ile Gly Asn Gln	
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	Glu Asp Val Arg Val Ser Gly Trp Leu Gln Thr Glu Phe Leu Ser Phe	
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	Gln Asp Gly Asp Phe Pro Thr Lys Ile Cys Asp Thr Asp Tyr Ile Gln	
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	Ser Ala Leu Ser Pro Gly Lys Ser Glu Asp Val Val Leu Arg Trp Ser	
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20 Asn His Gly Leu Val Pro Asp Gly Ala Val Cys Ser Asn Leu Pro Tyr
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130 135 140
Ser Pro Thr Thr Met Thr Ser Pro Ile Ser Pro His Phe Thr Val Thr
145 150 155 160
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Pro Glu His Lys Gln Glu Gln Gly Val Glu His Arg Gln Glu Pro Thr
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Glu Gln Glu Glu Glu Gly Lys Gln Glu Glu Gly Gln Gly Thr Lys Glu
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40 Gly Arg Glu Ala Val Ser Gln Leu Gln Thr Asp Ser Glu Pro Lys Phe
245 250 255
His Ser Glu Ser Leu Ser Ser Asn Pro Ser Ser Phe Ala Pro Arg Val
260 265 270
Arg Glu Val Glu Ser Thr Pro Met Ile Met Glu Asn Ile Gln Glu Leu
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Ile Arg Ser Ala Gln Glu Ile Asp Glu Met Asn Glu Ile Tyr Asp Glu
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Asn Ser Tyr Trp Arg Asn Gln Asn Pro Gly Ser Phe Leu Gln Leu Pro
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50 His Thr Glu Ala Leu Val Leu Cys Tyr Ser Ile Val Glu Asn Thr
325 330 335
Cys Ile Ile Thr Pro Thr Ala Lys Ala Trp Lys Tyr Met Glu Glu Glu
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Met Ser Thr Cys Ala Leu Cys Asp Phe Cys Ser Leu Lys Leu Glu Gln
370 375 380
Cys His Ser Glu Ala Ser Leu Gln Arg Gln Gln Cys Asp Thr Ser His
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